

-18-

WHAT IS CLAIMED IS

5

1. A synchronizing circuit synchronizing a predetermined code with first and second codes different in phase, comprising:

10 a code generating part outputting phase-shifted code shifted in phase by a predetermined number of chips from the predetermined code;

a first correlation detecting part detecting a correlation between the phase-shifted code from said code generating part and the first code;

15 a second correlation detecting part detecting a correlation between the phase-shifted code from said code generating part and the second code; and

20 a code shifting part shifting the phase of the phase-shifted code from said code generating part by a predetermined number of chips according to the detection results of said first and second correlation detecting parts.

25

2. The circuit as claimed in claim 1, wherein:

said first and second codes are different in phase by  $1/2$  chip; and

30 said code generating part generates the phase-shifted code shifted in phase by one chip from the predetermined code.

-19-

3. The circuit as claimed in claim 1, further comprising:

5 a third correlation detecting part detecting a correlation between the predetermined code and the first code; and

a fourth correlation detecting part detecting a correlation between the predetermined code and the second code.

10

4. The circuit as claimed in claim 1, wherein:  
said code generating part further generating

15 first and second fraction-shifted codes shifted from the predetermined code by an interval smaller than one chip in opposite directions; and

said circuit further comprises a switch part  
switching so that said first correlation detecting part  
20 detecting a correlation between the first fraction-shifted code and the first code, and said second correlation detecting part detects a correlation between the second fraction-shifted code and the first code.

25

5. A GPS receiving apparatus comprising:

a receiving unit extracting C/A codes from given  
30 GPS signals, and outputting data according to time difference between the different C/A codes; and

an information processing device, according to the output data of the receiving unit, obtaining position

-20-

information,

wherein said receiving unit synchronizes a predetermined code with first and second codes different in phase derived from each of the GPS signals, comprises:

5       a code generating part outputting phase-shifted code shifted in phase by a predetermined number of chips from the predetermined code;

10       a first correlation detecting part detecting a correlation between the phase-shifted code from said code generating part and the first code;

      a second correlation detecting part detecting a correlation between the phase-shifted code from said code generating part and the second code; and

15       a code shifting part shifting the phase of the phase-shifted code from said code generating part by a predetermined number of chips according to the detection results of said first and second correlation detecting parts.